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The Learnability of English Dative Alternation by Intermediate Korean University Students

SiYeon Pyo
(Sookmyung Women's University)

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This study explores the learnability of English dative alternation by Korean EFL learners at intermediate levels by examining whether they are aware of the syntax and semantic constraints on English ditransitive verbs. Analysis of essays revealed the students' strong propensity to use prepositional dative constructions more often than double object forms. Such a finding can be interpreted due to Korean postpositions, -*eykey* and –*ulwihay*, as counterparts of *to* and *for* in English respectively. The results of the AJT to examine the participants' sensitivity to semantic constraint were obviously contrasted between licit and illicit forms. As for licit forms, the accuracy in goal verbs was much higher than that in benefactive ones; however, in terms of illicit forms, the result was completely opposite. Different semantic properties between L1 and L2 on ditransitive verb types are assumed to make L2 learners have difficulties in narrowing down the semantic value scope by positive evidence only, especially in benefactive ones. Based on the Subset Principle (Berwick, 1985) and the Tolerance Principle (Yang, 2005, 2016), such results suggest providing L2 learners with more opportunities to encounter L2 input in consideration of distributional properties of it to make them gradually retreat from overgeneralization on English dative alternation.

[dative alternation/semantic constraint/ditransitive verb/the Subset Principle/the Tolerance Principle]

I. INTRODUCTION

The classic argument, the logical problem of language acquisition has cast some of the hardest challenges for human learning mechanisms. Backed up by unfathomably huge amount of data to account for human language learning and use, there have been numerous empirical studies. As one domain of such empirical research, it would be of great

significance to address learning mechanisms of ditransitive verbs in the field of L2 acquisition because this issue refers to not only L1 influence, but also a process of inductive generalization established from genuine L2 input concerning double object constructions. The process of acquiring a verb involves the process of acquiring its semantic roles related to the intrinsic meaning of the verb (Fillmore, 1977; Goldberg, 1995) as well as its syntactic features. Hence, L2 learners are required to develop their sensitivity to semantic properties of a verb in order to acquire syntactic constructions containing the verb (Goldberg, 1999; Tomasello, 1992, 2000). That is, in the process of restructuring L2 grammar, L2 learners must build up a semantic network of verb clusters and keep track of it in the particular ways those verbs are instantiated in argument structures for L2 (Year & Gordon, 2009). In this process, L2 learners involve difficulty in forming an abstract representation for the ditransitive construction until they fully acquire the appropriate L2 knowledge on it. In the recent years, empirical attention has been paid to the developmental relationships between syntax and semantics in the field of SLA (Lardiere, 2000; Lee, 1997; Oh, 2010; Pyo, 2013; Slabakova, 2006).

As one of the difficulties that Korean learners of English have due to cross-linguistic differences between Korean and English, English ditransitive construction has been investigated by several researchers (Lee, 1997; O'Grady, 1991; Pyo, 2013; Whong-Barr & Schwartz, 2002, Year & Gordon, 2009). Unlike Korean, there are two patterns in English syntactic construction containing ditransitive verbs because most English ditransitive verbs permit Dative Alternation; double object (DO) construction with two NP compliments as double objects and its dative pattern with one NP complement and one PP complement. However, in Korean, only dative-accusative pattern is accepted, whereas double accusative pattern is rejected (Oh, 2010; Whong-Barr & Schwartz, 2002). This point is considered as a major cause of errors Korean learners make when they use English dative alternation patterns. To provide a more exquisite account for their errors, this matter needs to be probed by investigating L2 learners' actual use and knowledge concerning semantic argument properties on the two types of NP objects.

Concerning acquisition of English dative alternation by Korean learners, just a few studies have demonstrated that there is an asymmetrical acquisition pattern between English benefactive Double Object Construction (hereafter DOC) and goal DOC. Korean learners of English tend to show difficulties in English benefactive DOC, whereas they acquire goal DOC with relative ease (Oh & Zubizarreta, 2003, 2006; Oh, 2010; Year & Gordon, 2009). According to Whong-Barr and Schwartz's (2002) study, it was claimed that this asymmetrical development is caused by L1 interference because grammatical properties between Korean and English benefactive DOC are different. On this matter, Oh (2010) claimed that the errors L2 learners make in benefactive DOC due to negative transfer of L1 can be overcome as English proficiency increases. That is, the acquisition of

the semantic properties of goal DOC may bootstrap acquisition of semantics of benefactive DOC. However, very little has been known about the tipping point at which the semantic properties of benefactive DOC may be activated clearly. Like this, what has been revealed in the previous studies regarding this matter came mostly from negative effect of L1 transfer. More studies are required to draw further accounts on this matter from various dimensions of L2 learning. In response to such a call, this study probes L2 learners' linguistic behavior in the use of ditransitive verbs to provide empirical data and interpretation in connection with L2 learning principles.

Some language learning models have been produced with attempts to unify linguistic complexity and language acquisition (Legate & Yang, 2007; Yang, 2002). However, as a natural role for probability learning mechanisms rather than as a formal means of integrating the quantitative properties of language input, the gradualness of language development needs to be considered in a broader cognitive and evolutionary setting (Chomsky, 2005; Hauser, Chomsky, & Fitch, 2002). Of the gradual development stages in acquiring English dative alternation, the present study focuses on intermediate level, where L2 learners actively make overgeneralization and gradually start to retreat from it (Yang, 2005, 2016). Thus, the purpose of this study is to explore intermediate L2 learners' actual use and knowledge on syntax and semantic argument properties on the two types of NP objects which follow English ditransitive verbs, providing pedagogical implications on the applicability and the role of the latest language learning model, the Tolerance Principle (Yang, 2005, 2016) as well as the Subset Principle (Berwick, 1985; Pinker, 1989).

II. LITERATURE REVIEW

1. Ditransitive Constructions in English

Ditransitive verbs which take a direct object and an indirect object involve the dative alternation by altering the order of these objects, giving as a result the DOC and as its counterpart, the Prepositional Dative Construction (hereafter PDC). In addition, ditransitive verbs hold both goal and theme arguments, making the pattern [V NPGOAL NPTHEME], or benefactive and theme arguments with the order [V NPBENEFACTIVE NPTHEME], depending on the internal argument structures. The first type is termed goal DOC related to *to*-datives since the dative counterpart of goal DOC is headed by the preposition to. The second type, on the other hand, refers to benefactive DOC and *for*-datives because of its prepositional variant for.

(1) a. John gave Mary a book. (Goal DOC)

b. John gave a book to Mary (*to*-dative)

(2) a. John bought John a book. (Benefactive DOC)

b. John bought a book for John. (*for*-dative)

Traditionally, DOC was considered to be derived from the dative construction in (1b) and (2b), which entails important asymmetries in the structural behavior of the double objects (Barss & Lasnik, 1986). Because possessives must be c-commanded by their antecedent when the antecedent is in a Quantifier Phrase, only the first object c-commends the second one. Consequently, an asymmetry arises in DOC in which the first object does not c-commend the second object as shown in (3) (Larson, 1988; Maranta, 1993; Oh, 2010; Perpinan & Montrul, 2006). Interestingly, a similar asymmetry also arises in PDC as in (4) below (Larson, 1988).

(3) a. I showed Mary herself.

b. *I showed herself Mary.

(4) a. I showed Mary to herself.

b.*I showed herself to Mary.

An interesting syntactical difference between goal and benefactive constructions comes from the fact that only goal DOC can be passivized (Fillmore, 1965; Kay, 2001).

(5) a. He was given a cake on his birthday.

b. *He was baked a cake on his birthday.

Pinker (1989) asserts that the dative alternation is virtually caused by the underlying semantic mechanism. In line with the mechanism, it is a well-known phenomenon that a certain class of ditransitive verbs is only allowed in the PDC while others hold both the DOC and PDC forms. According to Pinker (1989) and Gropen, Hollander, Goldberg, & Wilson (1989), this linguistic phenomenon is explained due to semantic and morpho-lexical constraints. By the semantic constraint, English double objects are assumed to be subject to the ‘Possessor(Poss) constraint’ to make dative alternation possible. By virtue of the notion of possession, this constraint restricts ditranstive verbs from being realized in both the DOC and PDC. That is, the referent of the first object must satisfy the selectional restrictions for possession as the potential possessor of the second object (Krifka 2001; Mazurkewich & White, 1984; Oh, 2010; Pinker, 1989; Tremblay). Hence, the essential condition to be grammatical is that a goal argument or the recipient in goal DOC must be a potential possessor of the referent being transferred (Pinker, 1989). As shown in (6), *Mary* functions as a prospective possessor, but *London* does not.

(6) a. Ann sent a package to London.
b. Ann sent Mary a package.
c. Ann sent a package to Mary.
d.*Ann sent London a package. (Krifka, 2001, p.2)

As for goal constructions, there is a big semantic difference between goal DOC and PDC counterparts. Goal PDC is governed by another semantic constraint, a caused motion meaning. That is, the condition for the referent of a theme argument in the goal PDC is that it must be an entity which can undergo physical movement. Only if the condition is satisfied, the goal PDC can arise encoded by a prepositional phrase (PP) complement containing to. Thus, although the DOC is well-formed because there is a prospective possession interpretation between Mary and a headache as in (7a) and (7b) is not correct because a headache does not involve a physical movement from one place to another. Hereafter, this semantic constraint is termed the "Movement Constraint", which has two opposite values transcribed as [±Move] and the Poss constraint is transcribed as [±Poss].

(7) a. The noise gave Mary a headache.
b. *The noise gave a headache to Mary. ⇒ [+Poss] , [-Move]

(8) a. NP1 GIVE NP2 NP3
→ NP1 causes NP2 to have NP3: associated with 'caused **possession**' meaning
b. NP1 GIVE NP3 to NP2
→ NP1 causes NP3 to move to NP2: associated with 'caused **movement**' meaning

In short, to make English dative alternation possible between goal DOC and the PDC, the two prerequisites on the theme argument must be satisfied. One is the semantic notion of caused possession with its goal argument, [+Poss]. Additionally, the semantic constraint of caused movement, [+Move] must be realized in goal PDC. Accordingly, although there is a possession relation between the two types of objects, if a theme argument, the second object in the goal DOC is not an entity with [+Move], its PDC is ungrammatical.

Finally, in terms of morpho-lexical constraints, the goal DOC pattern containing Latinate verbs does not allow the DOC. Latinate verbs such as donate, report, explain and transport are subject to this morphological restriction (Krifka, 2003). The distinction between the two different classes of verbs can be observed in the following examples.

(9) a. John gave a painting to the museum.
b. John donated a painting to the museum.
c. John gave the museum a painting.

d. *John donated the museum a painting. (Pinker, 1989, p.45)

On the other hand, the benefactive PDC seems to be free from the Poss constraint unlike its DOC counterpart. Without possession relation between the two types of objects, the benefactive PDC in (10a) and (10c) is grammatical whereas (10d) is ungrammatical due to lack of caused possession.

(10) a. John fixed a drink for Mary.
b. John fixed Mary a drink.
c. John fixed the radiator for Mary.
d. *John fixed Mary the radiator. (Jackendoff, 1990, p.196)

Several previous studies have argued that the semantic difference between the two types of construction, DOC and PDC, is attributed to the Applicative projection (Marantz, 1993; Harley, 1995; Pylkkänen, 2008; Oh, 2009). In Pylkkänen's study (2008), it is suggested that there are two types of applicative heads; high and low applicatives. According to the Applicative projection, what assigns possession interpretation between the two types of objectives to ditransitive verbs is a low applicative head. In accordance with this analysis, in English, the two types of goal constructions and benefactive DOC are assumed to belong to the low applicatives which encode a possession relation between the two objects, while only benefactive PDC is compatible with the high applicatives which are independent from the possessive interpretation. Interestingly, stative verbs and unergatives are classified as the high applicatives, which do not allow denoting a possession relation between the two objects (Pylkkänen, 2008). Accordingly, all DOCs in English is incompatible with stative verbs as shown in (11a) below. In contrast, the PDC counterpart is eligible for or compatible with stative verbs since English PDC is classified as a high applicative which is not constrained by [+Poss]. Like this, the Applicative projection can be used as diagnostics to distinguish the two types of ditransitive verbs.

(11) a. *John held Mary the bag.
b. John held the bag for Mary.

2. Properties of Korean Dative-accusative Constructions

It is well-known that Korean is a representative language which rejects the double object construction while the dative-accusative pattern is accepted. Oh (2009) empirically tested such a difference between the two types of accusative patterns of Korean benefactive construction with 54 native speakers, using an acceptability judgment task. Based on the

result, her study concluded that the dative-accusative pattern in Korean is what is considered as a DOC because the double accusative pattern in Korean is not well accepted.

(12) a. Mary-ka John-*eykey* inhyueng-*ul* mantule *cwu*-ess-ta.
Mary-Nom John-Dat doll-Acc make Ben-Past-Dec
'Mary made a doll for John.'
b. *Mary-ka John-*ul* inhyueng-*ul* mantule *cwu*-ess-ta.
Mary-Nom John-Acc doll-Acc make Ben-Past-Dec
'Mary made John a doll.'

Following Oh's (2009) claim, this study assumes the dative-accusative pattern in Korean as DOC with the double accusative pattern out of the way. To begin with, to investigate detailed properties of the dative-accusative form in Korean, the distinction between goal and benefactive types needs to be addressed. First, in goal DOC, Korean dative-accusative pattern with goal verbs is governed by the Poss constraint as with English goal DOC. "The goal marked with the dative case marking is interpreted as a prospective recipient of the theme marked with the accusative" (Oh, 2010, p. 414). As a low applicative, Korean goal DOC has a similar way of encoding semantics to English goal DOC. There is merely a lack of dative counterpart in Korean goal DOC unlike English DOC as seen in (13).

(13) a. John-un Mary-*eykey* sunmul-*ul* ponay-ss-ta.
John-Top Mary-Dat present-Acc send-Past-Dec.
b. John sent Mary a present
c. John sent a present to Mary.

The fact that there is no dative alternation between DOC and PDC in Korean goal DOC pattern could be a challenge for Korean learners of English to figure out which pattern between DOC and PDC in English corresponds to its Korean DOC.

Next, as for the benefactive DOC in Korean, the most striking feature is the obligatory appearance of the light verb *cwu*-. That is, an argument with the dative marker, *-eykey* can appear only in benefactive DOC with '*cwu*-' as an essential component for a dative marked argument to appear in the benefactive DOC in Korean .

(14) John-un Mary-*eykey* sunmul-*ul* sa *(*cwu*)-ess-ta.
John-Top Mary-Dat present-Acc buy Ben-Past-Dec.
'John bought Mary a present.'

Turning to semantic constraints on benefactive DOC between Korean and English, Korean benefactive DOC is semantically distinguished from English benefactive DOC in terms of a possessor reading. In English, both benefactive and goal DOCs hold caused possession interpretation. In contrast, the Korean benefactive DOC does not require the possessive interpretation because it is classified as a high applicative. Instead, the Korean benefactive DOC is governed by the on-behalf-of reading. Due to the *on-behalf-of* interpretation, equivalent to *-lulwihay* in Korean, Mary in (15) is considered not as a possessor of the present, but as a benefactor of the event of 'John's buying a present' (Oh, 2010). As exemplified below, it is English preposition for that corresponds to the benefactive postposition *-lulwihay* in Korean. Namely, since an argument marked with *-lulwihay* is regarded as a benefactor in the Korean benefactive DOC, the Korean benefactive DOC has its dative counterpart, PDC. Also, the postposition *-lulwihay* makes the benefactive light verb *cuw-* optional (Oh & Zubizarreta, 2010).

(15) John-un Mary-*ulwihay* sunmul-*ul* sa (*cwu*)-ess-ta.
John-Top Mary-for present-Acc buy Ben-Past-Dec.
'John bought a present for Mary.'

3. The Subset Principle and the Tolerance Principle

In this paper, it is assumed that the acquisition of L2 rules must be developed by inductive generalization from language-specific input data. Based on this assumption, two learning principles are briefly reviewed in this section in terms of acquisition of English dative alternation by Korean learners.

First, according to the Subset Principle (Berwick, 1985; Pinker, 1989), when L2 learners acquire different attributes between L1 and L2, their first choice is a subset grammar with a smaller and more restricted scope than the other, a relatively superset grammar. For example, when L2 learners whose L1 grammar is a subset grammar learn a superset grammar of L2, they need to subsequently extend their L2 grammar rule based on positive evidence. That is, when learners are exposed to grammatical utterances in the L2 input that L1 does not have, there will be a need to reset their L1 parameter. Like this, data involving grammatical utterances to which one is actually exposed is referred to as positive evidence (O'Grady & Archibald, 2000). Positive evidence is actually L2 input itself exposed to learners, which is assumed to provide L2 learners with a restricted number of well-formed sentences of the target language being learned to learners. Under the Subset Principle closely related to positive evidence, "if learners begin to learn a language that only allows NP+PP, such as *Randy explained the problem to Mary*, they can avoid making impossible errors, as in **Randy explained Mary the problem*." (Ellis, 1999, p. 426).

Between Korean and English concerning ditransitive verbs, English is assumed to have more restricted grammar because English benefactive DOC is governed by the Poss constraint while Korean benefactive one does not require the [+Poss], covering just general reading. In this respect, when English native speakers learn Korean, they are likely to apply their English semantic constraint to Korean at first because English has more restricted scope. However, on the basis of positive evidence from Korean input with a superset L2 grammar, the English native speakers would gradually revise their hypothesis and their L2 grammar may increasingly be extended as they get to encounter more sentences with its superset scope.

On the contrary, it is highly problematical whether the Subset Principle works in the opposite case. When Korean learners of English learn a subset grammar of L2, it is virtually impossible to encounter an opportunity to narrow down its value scope by positive evidence only because Korean has a superset grammar in terms of the semantic constraint on the benefactive DOC. Consequently, it would be difficult to judge one correct form with a subset value among sentences with two values by a superset grammar. Such L2 learners require negative evidence like explicit grammatical explanations to help them judge what is ungrammatical (Gass & Selinker, 2001; White 1989), to narrow down its value scope.

However, according to the Tolerance Principle (Yang, 2005, 2016; Yang & Montrul, 2016), negative evidence is not required when language rules are acquired. Actually, this principle was designed to detect a tipping point where the target constructions are productive and a learning mechanism which do not resort to just the innate endowment for language. Challenging Chomsky's (1965) 'poverty of the stimulus' and the logical problem, this principle provides a model of acquisition to account for a reasonable mechanism on whether language learners retreat from overgeneralization in the absence of negative evidence. According to Yang and Montrul (2016), by incorporating input effects and retaining the benefits of an abstract generative grammar without relying on piecemeal learning, the Tolerance Principle emphasizes that language rules are formed in leaners' language grammar by inductive generalization from language-specific input data without negative evidence.

More specifically, in Yang's (2016) study, the Tolerance Principle is defined as "a theory that provides for the threshold of exceptions for a productive rule" and it is reported that the regular rule of adding '*-ed*' in English past tense becomes productive "only if the child has acquired a sufficiently large number of verbs such that the number of exceptions, the irregular forms, falls below the threshold" (p. 6). From computational comparison between the cost of a fully lexicalized list and the cost of a productive rule with a list of exceptions, Yang (2016) finds that child chooses a more efficient and faster grammar and derives a threshold value of exceptions. Under the threshold of exceptions, faster

processing time is presumed as the result of applying a productive rule. In other words, if the number of irregular verbs in the child's vocabulary is lower than the threshold, the rule 'add *–ed*' is still lexical and is regarded productive. Thus, the smaller vocabulary a learner has, the easier it is to learn productive rules.

Through numerous empirical case studies, Yang (2016) claims that the Tolerance Principle predicts an acquisition stage where learners' productivity arises and they start to form more finely grained rules. Similarly, Yang and Montrul (2016) argue that the Tolerance Principle provides a mechanism for language learners to retreat from overgeneralization apart from negative evidence and the account for a poverty–of-stimulus phenomenon. However, whether and how the Tolerance Principle works in L2 acquisition still calls into question because the studies on this principle have been conducted in the field of L1 acquisition only. Considering its potential applicability to the acquisition of English dative constructions by Korean EFL learners, this study provides an empirical date on whether L2 learners at intermediate levels show the linguistic behavior of overgeneralization and starting to retreat from it.

III. METHODOLOGY

1. Research Questions

In line with the purpose of the current study mentioned above, the following research questions are posed;

(1) What is the linguistic behavior Korean EFL learners show in the use English dative alternation on ditransitive verbs in their writing tasks?
(2) Why do Korean EFL learners at intermediate level make more errors in benefactive constructions than in goal constructions?

2. Participants

Thirty four female university students in Seoul participated in the current study. At the time of data collection period, the participants were enrolling in a three-credit English writing course and were recruited from two classes of intermediate level. In this university, this course is mandatory with English speaking course in spring and fall semester respectively and students are supposed to choose a right class for their proficiency levels according to the result of the placement test on English writing and speaking respectively before each semester starts. There are three levels; moderate-high, moderate-middle, and

moderate-low, classified based on the criterion of MATE(Multimedia Assisted Test of English). In this study, eleven students were freshmen, seven sophomores, six juniors and ten seniors. One participant was excluded because she dropped the course after the mid-term. Seventeen students had experience of staying in English-speaking countries, but all was for overseas trips for less than six months. Their majors are considerably various; two were majoring English, seven economics, five law, four business administration, three administrative science, two chemistry, two media, two computer science, two politics and diplomacy, two statistics, one visual art design, one German and one industrial design.

3. Source of Data and Procedures of Data Collection

The researcher of this study designed and collected the data from a questionnaire, a set of Acceptability Judgment Task (AJT), 10 writing tasks according to the syllabus of the course in the fall semester of 2015. At the beginning of the semester, all the students responded to a background questionnaire, and they are required to write one or two essays every week from the 2nd week to 12th week based on the topics presented in the syllabus. This English writing course at intermediate level covers from one paragraph to five paragraphs essays and deals with various genres such as descriptions, procedures, narratives, and opinion essays. The weekly essay writing topics are presented in Appendix 1. Except the mid-term period, the participants wrote 10 essays by 12th week and on the 12th and 13th week, two sets of the AJT were implemented to examine if the participants have knowledge on the semantic constraints on English ditransitive verbs in terms of a goal argument or a benefactive argument. Actually, this writing course was conducted based on process writing; after writing the first draft, the students received some feedback from peers and the instructor and revised their writing once or twice. However, all the data collected from the writing tasks used in this study were taken from their first drafts only. The instructor never provided any explanation concerning ditransitive verbs or dative alternation until the 13th week. After finishing all the data collection, a clear and explicit grammar explanation on English dative alternation phenomenon was provided with the participants.

In order to elicit the data regarding L2 knowledge of the semantic constraints on ditransitive verbs, the participants were instructed to judge the acceptability of each sentence in the given context by marking a scale from 1 (completely unacceptable) to 4 (completely acceptable). Following the AJT used in Pyo's (2013) study, this task consists of 29 test items with a total of 17 target verbs, which were used in Pyo's (2013) study based on the test verbs presented by Whong-Barr and Schwartz (2002) and Oh (2010). The 16 test items among 29 items were designed to measure whether the students have L2 knowledge of the Poss constraint for goal and benefactive verbs. Each pair of sentences

containing each target verb consists of a pair of DOC and its counterpart PDC and was presented in the [±Poss] contexts, respectively. Four goal verbs in the [+Poss] context were added in the two different contexts and in the PDC context, there are 4 test items which do not satisfy the constraint governing goal PDC, [+Move]. Additionally, the other 5 test items containing goal verbs governing by the Latinate constraint were presented as extra fillers, which means they do not allow having double objects. First, the task was designed with the same test verbs in two different contexts with opposite values of semantic constraints and was divided into two sets for the participants to avoid encountering the items containing the same verb. Exceptionally, the five goal verbs concerning [+Latinate] were not repeated. The items in the shaded boxes in Table 1 are regarded as unacceptable .

TABLE 1
The Test Verbs and Contexts

Type / Context	DOC		PDC	
	Goal	Benefactive	Goal	Benefactive
[+Poss]	bring send show throw	bake draw find pour	bring send show throw	bake draw find pour
[-Poss]	bring send show throw	bake draw find pour	bring send show throw	bake draw find pour
[+Move]	give hand lend sell		give hand lend sell	
[-Move]	give hand lend sell		give hand lend sell	
[+Latinate]	announce donate explain repeat transfer		announce donate explain repeat transfer	

*The items in the shaded boxes are regarded as unacceptable. (Pyo, 2013, p.184)

According to the test verbs and contexts presented in the Table 1, the test items of the AJT were designed as each pair with +/- values of the semantic constraints. The test items were modified and revised ones from the AJT used in Pyo's (2013) study. The numbers in bold are expected as correct ones as shown in (16). The participants spent about ten to

fifteen minutes completing this task including time for directions, distribution and collection in each session.

(16) Samples of test items used in the AJT

1. [+Poss] context

Lynn was reading a book on the bed in her room. Her younger brother, Jack entered her room and asked her to give back the book she was reading, so ~

a. *Lynn threw Jack the book.* 1 2 3 4 Not sure

b. *Lynn threw the book to Jack.* 1 2 3 4 Not sure

2. [-Poss] context

Tom fell asleep on his bed without taking a shower because he was very tired. At that time, his dog, Alex barked loudly, waking him up, so ~

a. *Tom threw Alex a pillow.* 1 2 3 4 Not sure

b. *Tom threw a pillow to Alex.* 1 2 3 4 Not sure

Finally, between the 13th and 14th week of the semester, a follow-up interview was administrated in a semi-structured form. The instructor recruited volunteers to participate in the interview in advance for the purpose of asking some details concerning their knowledge and use of English ditransitive verbs and dative alternation. She had three group interviews with three students, one group with four students, and interviews with nine individual students. Each interview was conducted for 15 to 30 minutes. A list of questions was prepared in advance and some additional questions based on participants' answers were asked. The interview questions include 'Have you ever learned English ditranstive verbs and dative alternation obviously? When?', 'How have you built up knowledge on English ditransitive verbs and dative alternation?', 'How much do you think you have knowledge on them?', 'Which linguistic features have you paid attention to when you use them?', and 'What difficulties did you experience in using English ditransitive verbs and dative alternation?'

IV. RESULTS AND DISCUSSION

1. Results of Writing Tasks

From all the writing tasks using 10 topics by 34 intermediate university students for 10 weeks, a total of 340 writing essays were collected. From the writing works, corpus was obtained, consisting of 120,978 words. The instructor read all the essays and a manual

investigation was conducted to find out the sentences containing DOC and PDC every week. Then, the tokens, the number of errors and percentage were compared across the two types of verbs in the two contexts, DOC and PDC respectively to find out the most favored construction between the four. Especially, a manual investigation on L2 learners' linguistic behavior in using English dative alternation was intensively administrated to see whether they make more errors in benefactive constructions than in goal constructions.

In the 340 weekly essays, the students showed that they prefer to use more PDC than DOC and more goal verbs than benefactive as shown in Table 2. The goal verbs occurred 42 and 58 times in DOC and PDC respectively, while benefactive verbs appeared 13 and 34 times in each construction. In the error rates, this tendency is also evident between goal and benefactive contexts. More errors were observed in benefactive verbs, especially, in PDC (41.18%) than in DOC (23.08%). Relatively, much fewer errors were made in goal verbs (2.38% in DOC and 5.17% in PDC). This clear inclination is assumed to be closely related to such markers as the light verb and benefactive postposition which make Korean EFL learners prefer using PDC involving a preposition to DOC. As mentioned earlier, in effect, Korean DOC is assumed to correspond to a dative-accusative pattern because Korean double accusative pattern is not accepted. In Korean dative-accusative form, the most striking features would be the dative marker, '*-eykey*' and the accusative marker, '*–ul*'. In benefactive constructions, the presence of the light verb, '*-cwu*' and the '*on-behalf-of*' interpretation, equivalent to '*–lulwihay*' in Korean are considered as predominant features . The results for the writing tasks are as follows:

TABLE 2

Errors and Tokens of DOC and PDC by Goal and Benefactive Contexts in Essays

Goal		Benefactive	
DOC	PDC	DOC	PDC
1/42 (2.38%)	3/58 (5.17%)	3/13 (23.08%)	14/34 (41.18%)

Errors/Tokens (%)

Unlike the researcher's expectation, in fact, the appearance of English ditransitive verbs was more or less sparse in the writing tasks even though 340 essays involving 120,978 words were collected. Because there was no push for using ditransitive verbs or specific words and phrases, considerably various structures not limited to dative alternation were observed. Nevertheless, the most ditransitive-related constructions were found in the narration.

2. Results of the AJT

Results of the AJT on goal and benefactive constructions are presented in Table 2. First, it was revealed that the intermediate students rated much higher in the PDC regardless of the verb types and the control of the Poss semantic constraint. Especially, the overall accuracy of PDC in goal contexts were above 90%, while the accuracy rate was 81% in the [-Poss] context of benefactive verbs. This result shows that Korean EFL learners are much more sensitive in judging grammaticality in PDC than DOC, irrespective of [+/-Poss] contexts. However, when it comes to the accuracy in DOC, the overall accuracy was rather higher under the [-Poss] context than the [+Poss] in both goal and benefactive verbs. This can be interpreted as indicating that Korean EFL learners are more sensitive in judging illicit DOC under the [-Poss] contexts than licit ones under the [+Poss] in line with Pyo's claim (2013). A predominant feature regarding benefactive DOC was that the accuracy under the [-Poss] context was more than twice as high as that under the [+Poss] (69.4% versus 32%).

TABLE 3
Overall Percentages of Correct Response in the AJT

Goal				Benefactive			
[+Poss]		[-Poss]		[+Poss]		[-Poss]	
DO	PD	*DO	PD	DO	PD	*DO	PD
41%	94%	60.2%	91%	32%	90.8%	69.4%	81%

*Illicit forms are shaded.

In effect, what matters to Korean EFL learners would be benefactive DOC. As mentioned above, goal DOC both in Korean and English is classified as low applicatives requiring a [+Poss] value between the two objects. However, Korean benefactive DOC is not governed by the [+Poss] constraint while English benefactive DOC still requires the [+Poss] like goal DOC. Under the Subset Principle, Korean EFL learners were expected to make more errors in using English benefactive DOC because they have to narrow down their scope from the superset to the subset. In fact, they never encounter an English sentence with [-Poss] relation between the two types objects in the given input. Thus, this would give rise to difficulty in judging whether this is due to its ungrammaticality in English or merely accidental coincidence by positive evidence.

Additionally, the overall statistics on the acceptability in terms of the [±Move] and [+Latinate] constraints of goal verbs are summarized in Table 3. Strikingly, the accuracy in the PDC under the both [+Move] and [+Latinate] is considerably high (90% and 94%) as

in [±Poss] contexts. However, the opposite result was seen under the [-Move]. The accuracy of PDC [-Move] was considerably lower than that of its counterpart, DOC; the accuracy in DOC was three times as high as that in PDC (23% and 68%, respectively).

TABLE 4
Percentages of Correct Response in Goal Verbs under Additional Contexts

[+Move]		[-Move]			[+Latinate]
DO	PD	DO	*PD	*DO	PD
54%	90%	62%	23%	68%	94%

*Illicit forms are shaded.

Finally, in order to investigate effects of variables in terms of the two types of constructions(DOC/PDC) and contexts(+/-Poss), statistical analysis by ANOVA with repeated measures was adopted. Based on the percentage of correct responses regarding the two types of ditransitive verbs (goal/benefactive), the two variables showed significant effects as stated in Table 4 (p=.011 and p=.008, p<.05). This result confirms the tendency that intermediate Korean EFL learners prefer to use PDC more than DOC regardless of contexts and verb types. Also, the fact that the overall accuracy in licit forms of DOC in [+Poss] was relatively lower than in illicit forms of DOC in [-Poss] is closely related to this result. Furthermore, a significant interaction between the context and construction was found (p=.028, p<.05). This is considered due to the fact that the gap of the overall accuracy between DOC and PDC in licit forms is much bigger than that in illicit forms.

TABLE 5
Results of ANOVAs in the [±Poss] Contexts

Variables	p-value
Construction (DOC/PDC)	p = .011
Context (±Poss)	p = .008
Context × Construction	p = .028

3. Discussion

Taken together from all the data analysis to investigate linguistic behaviors occurring in intermediate level in terms of English dative alternation, the current study provides several pedagogical implications. First, L2 learners at intermediate stages are certainly in the process of developing sensitivity to semantic properties on ditransitive verbs. Especially, they showed much higher accuracy in PDC than in DOC. Not only under the Poss

constraint, but also under the additional [+Move] and [+Latinate] constraints of goal verbs, with goal verbs, the overall accuracy showed the similar result. Especially, the fact that percentage of rejecting of PDC was considerably low (23%) can be interpreted that intermediate L2 learners tend to favor PDC in using English ditransitive verbs, actively making an overgeneralized rule. This finding can give a supportive and expanded account to Oh's (2010) study which suggests that acquisition of benefactive DOC is triggered from that of goal DOC. This is because the current study explored PDC as well as DOC whereas the previous study focused on DOC only. In view of the Tolerance principle (Yang, 2005, 2016), the phenomenon that PDC pattern becomes a productive rule in L2 learner's grammar, undergoing an overgeneralization stage was in line with Yang's study (2016) as stated above.

Additionally, the same result in [±Move] and [+Latinate] contexts under [+Poss] with goal verbs was examined in that the accuracy is higher in PDC than DOC as for the licit forms. On contrast, under the [-Move] as an illicit form, the percentage of rejecting the PDC was considerably low (23%). This fact also shows that there is a strong tendency to accept PDC more readily than DOC at intermediate stages of L2 grammar. This tendency is commonly observed in L1 acquisition. It has been reported that English-speaking children acquire PDC before DOC although they English-speaking children showed overacceptance of both illicit benefactive and illicit goal DOC in their developmental stages (Gropen et al., 1989; Yang & Montrul, 2016). As far as the Tolerance Principle goes, this tendency may be from the scenario that the different rules concerning semantic constraints on the two types of ditransitive verbs fall short in a threshold point of L2 learner's grammar yet.

So far as goal verbs are concerned, from the result in the [-Poss] context, one reasonable account is proposed; Korean EFL learners at intermediate level are unlikely to have sensitivity to differentiate between [+Poss] and [-Poss] contexts in terms of goal verbs at least. Although DOC in [-Poss] is an illicit form, it was more accepted as a licit form. This interesting phenomenon can be explained in the light of the Subset Principle. Under the principle, Korean EFL learners never encounter an ungrammatical sentence with [-Poss] relation between two objects in English by positive evidence. In this respect, they would have difficulty in judging whether it is not given in the input either due to its ungrammaticality in English or merely accidental coincidence. Thus, the learners cannot help testing their overgeneralized hypotheses, relying on positive evidence.

Next, in terms of the Poss constraint, benefactive DOC has the wider range of possible sentences in Korean than in English. According to the scenario of the Subset Principle, when Korean learners with superset L1 start to learn English with subset as L2, they need negative evidence because both goal and benefactive DOCs in English are restricted to the Poss constraint, whereas Korean benefactive DOC is not. Consequently, Korean leaners of

English are expected to require negative evidence through explicit correction or instruction about the English subset value on semantic properties as well as positive evidence. In this sense, Korean learners learning English would need to reset the parameter on the benefactive DOC from a general reading to a possessive one between the two types of objects. As their proficiency increases, when they face a need to narrow down the value scope of the semantic constraint on benefactive verbs, they are expected to have difficulty in judging one correct form with a subset value, [+Poss] constraint, from a superset grammar of L1 with two values, [±Poss]. That is why acquisition of English benefactive DOC by Korean learners lags behind that of its goal DOC.

From the follow-up interview, the vast majority of the participants interviewed expressed that they felt considerably ambiguous in marking the acceptability of the test sentences. Regarding dative alternation of English ditransitive verbs, although they received explicit instruction on that from English teachers in their secondary school days, and studied that in English grammar books several times, they responded that they were unlikely to have clear knowledge on that. This finding casts some doubt on the claim that "if the Subset Principle does not constrain the learner's initial hypothesis, the only way of changing from" the Korean-type semantic constraint "to the English one (the subset) is with explicit correction or instruction." (Gass & Selinker, 2001, p.172).

Another interesting feature found in the interview is that the participants thought they had known about English dative alternation well before they took the AJT, even while involving in essay writing tasks for 10 weeks. Some students reported that when they took the AJT, they started to be so confused in some dative alternation constructions that they marked by their guessing in some items. This can be interpreted based on the Tolerance Principle as an evidence that intermediate Korean EFL learners are in the process of making overgeneralization actively, and gradually reaching a threshold where they begin to change their L2 rules to more finely grained rules, retreating from the overgeneralized ones as they acquire a sufficiently large number of ditransitive verbs beyond a tipping point. Such findings would assist developing an efficient pedagogical tool for teaching English ditransitive verbs and dative alternation.

V. CONCLUSION

The primary concern of the current study is to explore L2 learners' linguistic behavior and sensitivity to semantic constraints governing the English DOC and PDC in acquiring English dative alternation. As one of linguistic features requiring intensive trial and error in the process of restructuring L2 grammar, developing L2 learners' sensitivity to semantic argument structures is an indispensable condition to acquire a verb. Based on the two

learning principles, the Tolerance Principle and the Subset Principle, the present study provides compelling implications on L2 learners' developmental features at intermediate stages in acquisition of English dative alternation. Since language teachers should be careful when they design and execute their grammar syllabi, the findings of this study may provide a useful guide to teach English ditransitive verbs with dative alternation.

To begin with, when it comes to writing tasks involving 340 weekly essays with 10 topics, which were obtained from 34 intermediate university students, it was found that they prefer using PDC to DOC and goal verbs to benefactive ones. This tendency is assumed due to such Korean markers as the light verb, '*–cwu*', and benefactive postposition '*–lulwihay*' involving the '*on-behalf-of*' interpretation. In addition, the influence of Korean postposition, *-eykey* and *-ulwihay*, as counterparts of English preposition, to and for respectively, is considered to make Korean learners prefer PDC to DOC. Interestingly, this is a common phenomenon found in children's L1 acquisition on English dative alternation.

Similarly, from results of the AJT on English dative alternation, it was found that the overall accuracy in PDC was much higher than in DOC regardless of the verb types (goal/benefactive verbs) and contexts ([+Poss]). Strikingly, the percentage of correct response to goal PDC under [+Latinate] context was considerably high. Interestingly, their sensitivity in judgment of illicit DOC was higher than licit DOC under the [-Poss] context. In contrast, the completely opposite results were observed under the [+Poss] context in both goal and benefactive verbs. Especially, as for benefactive DOC, the accuracy under [-Poss] was over twice as high as that under [+Poss]. This may be caused by the fact that Korean benefactive DOC is not governed by the [+Poss] constraint while English benefactive DOC still requires the [+Poss] like goal DOC. Accordingly, it is observed that intermediate Korean EFL learners have difficulty in judging whether the absence of DOC under the [-Poss] context is due to its disallowance in English or just pure coincidence on the basis on positive evidence (Pyo, 2013).

However, in the process of restructuring their L2 grammar, the more opportunities to be exposed to negative evidence as well as positive evidence L2 learners have, the more sensitivity to semantic properties governing English ditransitive verbs they develop according to the Subset Principle. However, in the follow-up interview, the participants reported that they had no experience of encountering DOC with [+Latinate] goal verbs although they received explicit instruction from English teachers or English grammar books. Consequently, L2 learners at intermediate stages need to have more opportunities to refine their overgeneralized rules to more finely grained ones by acquiring a sufficiently large number of ditransitive verbs to reach a threshold, which is line with the Tolerance Principle (Yang, 2005, 2016; Yang & Montrul, 2016). Language teachers should make their students expose to a variety of forms applied by a certain rule in different contexts.

Also, to better identify the accuracy of students' L2 knowledge, teachers need to analyze the authentic learner corpora (Kim, 2016) obtained from various students' productive tasks and develop offer diverse methods to become conscious of their overgeneralization. In this respect, this study contributes to providing compelling implications on the role of the Tolerance Principle as well as the Subset Principle when English teachers design a grammar lesson in consideration of learners' proficiency levels .

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APPENDIX A

The Weekly Essay Topics and the Total Numbers of Words

Week	Genre	Topic	Words
2	Free One paragraph	My Self-introduction	250 -300
3	Free One paragraph	My Favorite TV show/movie	270 -320
4	Process Writing One paragraph	My Favorite Recipe	250 -300
5	Description(People) One paragraph	My Favorite Person	270 -320
6	Description(Place) One paragraph	My Room	270 -320
7	Narration	My Happiest/Worst Event	300 -350
9	Opinion Essay Five paragraphs	Three Important Things in My Life	over 350
10	Opinion Essay Compare/contrast	Studying at Library VS at home	over 400
11	Opinion Essay	Why must GM food be strictly controlled by regulations?	over 400
12	Opinion Essay Agree/disagree	Group work produces better outcomes.	over 400

Examples in: English

Applicable Language: English

Applicable Levels: College or University

Si-Yeon Pyo
Division of English
Sookmyung Women's University
Cheongpa-ro 47-gil, 100(Cheongpa-dong 2ga)
Yongsan-gu, Seoul, Korea
Email: sypyo@sm.ac.kr

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